



511 Travel Information Overview

What is 5-1-1?

Real time traffic and weather information is now available by simply dialing 5-1-1 in Washington State from some phones. Soon it will be available from every phone. Puget Sound traffic conditions, statewide construction and incident information and mountain pass conditions are updated every few minutes. 5-1-1 also connects callers directly to the state's ferry system and provides 800 numbers for passenger rail and airlines. The new system builds upon the highly successful Washington State Highway hotline that now manages 4.6 million calls each year.

How does it Work?

Dial 5-1-1 and say "traffic" to receive customized traffic information. Then say the road number, such as I-5, and receive up to the minute updates on the road segment you plan to use. Traffic, incidents and more are now available to some Washington residents. Both regular and cellular telephone companies have adopted the new voice recognition technology. Other phone companies will make the switch over the next few months.

State-of-the-art speech recognition technology allows callers to verbally ask the system what they want, such as "traffic" or "mountain pass." The requested information is then "spoken" back to the user. Callers can use key words to quickly navigate the system to the specific road segment for which they seek information, while still providing enough structure to guide new users.

What are the Benefits?

5-1-1 is vastly simpler and safer than the existing touch-tone system. Once connected, callers request the specific information they seek. There is no need to wait or enter a series of numbers. Cellular callers can keep their eyes on the road. Because the information is gathered electronically directly from roadway sensors, 5-1-1 provides the most up-to-date information possible from any source, including traffic reports reported by the media. Information is accurate within two to three minutes of slow downs and accidents in covered regions.

Will WSDOT's existing 1-800 hotline still be accessible?

WSDOT's 1-800 traffic and mountain pass number will remain operational until all major land line companies have activated the new 511 voice recognition system.

Border Issue and Planned Fix

Cell phone users calling in areas close to the borders of Washington State may encounter problems connecting to the Washington State 511 system. In particular, cell phone users in the Vancouver, Washington and Portland, Oregon metropolitan area, including the Columbia River Gorge, will most likely get connected to the Oregon 511 system. Managers of the Oregon and Washington 511 systems are planning on installing a direct connection between the two 511 systems. This direct connection should be working before June 2004.

511 Background and History

Over the last decade, transportation agencies across the nation have developed automated travel information telephone systems to help travelers plan their trips. By 2000, almost 300 systems were operating throughout the country, serving millions of callers with real-time roadway and transit information. Each system had its own 7-digit telephone number, with a host of 800 number systems permitting long distance calls as well. Recent research has shown that users rate these information systems highly, and they use them to avoid traffic problems and save time. Given the high costs of accidents, transportation agencies have placed an emphasis on developing these types of advanced traveler information systems, also called intelligent transportation systems. As these systems became more prevalent, the seven-digit phone number required to call in became a barrier.

In Massachusetts, for example, despite the use of a mnemonic seven-digit number and millions of dollars spent to promote it, lack of awareness and inability to recall the number were the biggest barriers to using the advanced traveler information system. When a pilot project in Cincinnati and northern Kentucky converted their seven-digit travel information system to a three-digit number in 1997, call volumes rose a dramatic 72%.

At the request of the U.S. Department of Transportation and a host of transportation planning organizations, the Federal Communication Commission (FCC) designated 511 as the national travel information number on July 21, 2000. The new number will permit travelers to call a single number wherever they were situated in the United States, to learn local traffic and transit conditions. The FCC did not mandate the dedicated use of 511 as a telephone number for travel information. But they did reserve this number for transportation agency use, which has now spawned a number of 511 systems across the country.

The Washington State Department of Transportation (WSDOT) currently has a touch-tone telephone travel information system. Users in the greater Seattle area call (206) 368-4499 (DOT-HIWAY), and long distance callers can use 1-800-695-7623 (ROAD). Washington State Ferries operates (206) 464-6400, 1-800-84FERRY, and 1-888-808-7977.

Usage of the current phone numbers (without 511) is 387,000 calls/year. With the launch of 511 this spring, demand is expected to climb to 541,800 calls/year.

New Technologies and Voice Recognition

At the same time that access to 511 was authorized by the FCC, new technologies permit fully automated conversions of traffic congestion and incident data into everyday speech. Road sensors identify traffic volumes that are converted into levels of congestion for each highway section. Incidents are identified by video camera observations or information from the Washington State Patrol.

The traffic volume data are then converted into speech, and using voice recognition, traffic reports on a specific road segment are played back. In Washington State within the greater Seattle area, prerecorded speech is being used to provide real-time traffic congestion reports within a few minutes of their detection. Text to speech technology is being used to provide statewide incidents and construction reports. In these most sophisticated systems, a caller connects to 511 and can speak their request at any time, interrupting the prompts to receive specific information by route and direction.

The Travel Portal

The 511 system serves as a portal to a variety of Washington travel-related information systems. The main dialog prompts callers to select from the following: real-time traffic for the central

Puget Sound area (which "reads" the internet flowmap), roadway conditions and construction information (includes incidents), mountain passes (road restrictions and weather), ferry information and other (express lane status, public transit phone numbers, passenger rail phone numbers, airline telephone numbers, adjacent states and provinces).

In Washington State, initial operation uses voice recognition technology for all prompts other than the Washington State Ferries. Selection of the Ferry option takes the caller into the WSF phone system, which currently uses traditional push button technology.

Where Does It Work?

Access to 511 involves the reprogramming of every telephone company central exchange computer switch, including cell companies and private phone systems. For the fixed (land line) phone service in Washington State, about 50 percent of the market is served by Qwest (formerly US West), 25 percent by Verizon (formerly GTE), and 25 percent by various smaller phone companies. All the landline phone companies in the state were asked to reprogram their switches late last year. Qwest, along with a number of the smaller phone companies, such as CenturyTel, Yelm Telephone, Ellensburg Telephone, Toledo Telephone, Union Telephone, XO Communications, Naselle Telephone, and Pend O'Reille Telephone already have implemented the change. Verizon has begun to work on reprogramming their landline switches, which should be complete this summer.

On the wireless side, seven primary wireless companies operate in Washington State: Qwest Wireless, AT&T Wireless, Sprint PCS, Cingular, T-Mobile (formerly VoiceStream), Nextel, and Verizon. Qwest, AT&T, T-Mobile and Cingular have reprogrammed the wireless call routing computers without cost to WSDOT, the other three providers hope to make the switch this summer.

It is expected that 511 service will be operational throughout most of Washington State by July of 2003.

Travelers who want to access the 511 system before their local phone or wireless provider makes 511 available can call (206) 515-3866 (Seattle), or (360) 570-2301 (Olympia). For more information about the 511 system, please contact Eldon L. Jacobson, (206) 685-3187, eldon@u.washington.edu

